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* Views expressed are those of the authors and do not necessarily reflect official positions of De Nederlandsche Bank.

Working Paper No. 141/2007

June 2007

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WHO PAYS FOR BANKING SUPERVISION? PRINCIPLES AND PRACTICES

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May 2007

This paper focuses on the financing of banking supervision. Countries are classified according to who finances banking supervision – the tax payer and/or the supervised industry -, and how the budget and fees are determined. We show that funding regimes differ across countries. Public funding is more often found when banks are supervised by the central bank, while supervision funded via a levy on the regulated banks is more likely in the case of a separate financial authority. Finally, some countries apply mixed funding. In general, there is a trend toward more private funding. We also find a relation between sources of financing and accountability arrangements. Public financing is associated with accountability towards the parliament, while private financing is more likely to go hand in hand with accountability towards the government. The financing issue is important because the financing regime may affect the behaviour of the supervisor and hence the quality of supervision. Regulatory capture, industry capture and the supervisor's self interest may affect supervisory policy. No theoretical model has been developed prescribing the optimal financing of supervision. Our results suggest that the actual choice of financing is a casual one, not based on either considerations of incentive-compatibility or on the beneficiary approach. As it is to be expected that financial regulation will become more internationally organized in the future, careful analysis of the financing issue will become even more relevant.

JEL Classification Numbers: D78, G21, G28, O17, P16

Keywords: banking supervision, budgetary independence, accountability, financial governance, central banks, financial authorities

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1. Introduction

Over the past decade, many countries have witnessed changes in the architecture of banking supervision. Sometimes the institutional change was triggered by a banking crisis, which harmed the reputation of the supervisor. But also, policymakers were pressed to rethink the supervisory regimes due to changes in the structure of the financial industry in their country, brought about by mergers between banks and insurance companies (conglomeration), internationalisation of the financial sector and the blurring of distinctions between various types of financial institutions and products.² In a number of countries, there is still an ongoing debate about whether the supervisory structure should be reformed, and if so, in what direction. An example is Italy, where in 2005 the Parliament discussed the “hybrid” supervisory institutional setting, introduced a marginal reform of the antitrust responsibilities, reduced central bank involvement and shortened the Governor’s term of office.

Not only the architecture of financial supervision, but also its financing structure differs among countries. Moreover, it has seen changes over time. Thus, in the Netherlands, the change in the architecture of supervision was in 2004 accompanied by a change in the financing structure: the system of full public funding was gradually replaced by a mixed system using seignorage as well as levies on the supervised industries (Mooij and Prast, 2001; Van der Zwet, 2003). In general, there seems to be a trend away from public and towards private financing of bank supervision.

The academic literature has thus far paid only little attention to who pays and who should pay for banking supervision, an exception being Quintyn and Taylor (2003, 2004). The purpose of this paper is to provide a first step in contributing to filling this gap by presenting an international comparison of financing regimes in a large set of countries. Our data consist on information on the sources of financing of banking supervisors worldwide from various sources, including the BIS Governance Network. . In addition, we have carried out a survey which contained questions about the source of financing, budgetary procedures and accountability practices. We gathered 20 responses which we have used to supplement the other data.³

² The role of the financial blurring effect in explaining the reform of the supervisory architecture is highlighted in Grunbichler (2005) for Austria, Schuler (2005) for Germany, Prast (2005) for The Netherlands. Masciandaro (2005 and 2006) performed empirical analyses on the determinants of supervisory reforms, checking the robustness of the financial blurring effect.

³ Barth, Caprio and Levine (2001) also provide a detailed database.

Our analysis is limited to the financing of prudential supervision of banks, although we are aware that changes in the structure of the financial industry would also require the analysis of insurance and securities supervision. In fact, many countries have integrated financial supervision of the three sectors, including in some instances the supervision of pension funds. Being limited to banks' prudential supervision, this paper should therefore be regarded as an initial contribution to a more comprehensive analysis of the budgetary governance of financial sector supervision.⁴

Of course, other questions are also relevant in the analysis of budgetary independence. For example, is there any optimal financing model of supervision, and can the performance and stability of individual institutions, and the financial system as a whole, be explained by the financing structure of supervision? Is there any correlation between accountability practices and sources of financing? What does the process of internationalisation imply for the financing structure? We will leave these questions for future research, but touch upon them briefly in the remainder of this paper.

The paper is structured as follows. Section 2 discusses possible ways to address the issue of the financing structure of banking supervision. Section 3 describes the overall supervisory architecture in a number of countries, paying particular attention to the financing rules. Section 4 presents evidence on supervisory accountability practices for a subset of our sample. Our data consist of information about the financing structure of 90 banking institutions (central banks, specialised supervisory agencies, single financial authorities). Our main conclusions and directions for future research are presented in section 5.

2. The importance of the issue of financing supervision: principal–agent, industry capture, political interference issues

Before turning, in section 3, to the empirical question who *does* pay for supervision, we will briefly touch upon the theoretical issue of who *should* pay for supervision. The issue of the financing of banking supervision is relevant first and foremost because the financing regime of supervision may affect the behaviour of the supervisor and hence the quality of supervision. This is where the issues of supervisory independence, regulatory capture, and principal agent theory come into play.

⁴ By limiting ourselves to prudential supervision, we overlook conduct-of-business supervision, which, in some countries, is carried out by the same institution as the one responsible for prudential supervision. Market conduct supervision has become more important in the face of recent scandals in which individual market participants have been harmed.

From a microeconomic perspective, one might argue that the beneficiaries should pay. Individual bank depositors and other bank stakeholders benefit from micro prudential supervision, as this is a form of consumer protection. In fact, micro prudential supervision can be regarded as monitoring which is delegated by bank depositors to the supervisory authority. Taking this point of view, financing of supervision by the banks – who would pass on the bill to their customers – would seem to be desirable.⁵ However, there is no doubt that society as a whole benefits from financial stability, which is fostered by prudential supervision and by the central bank role of the lender of last resort (Van der Zwet and Swank, 2000). This would make a case for tax-financed banking supervision. When considering the pros and cons of financing, the degree of distortions of the tax system should also play a role. The more distortionary tax financing is, the less likely it would seem that, *ceteris paribus*, supervision paid by taxes is the optimal choice for society.

Theoretically relevant as the beneficiary approach to public and/or private financing of supervision may be, we do not believe this to be the most relevant issue. Tax payers and bank depositors are theoretically distinct, but in practice largely overlapping categories of citizens. In developed societies, no household can do without a bank account and all households pay taxes, directly (income, wealth) and indirectly (VAT). Those who have high bank deposits are most likely the ones who also pay high taxes, hence the burden would in any case fall mostly on them – although depending on the bracket structure of the income tax system, higher incomes and wealthier people may be better off with private financing. Hence, although principally relevant, the beneficiary approach does not have major practical implications. In our view, it can be circumvented by assuming that 1) citizens need to be a bank client, 2) tax payers and depositors are almost identical groups, and 3) society as a whole benefits from prudential supervision.⁶

Note, that the beneficiary approach and the principal-agent approach are intertwined, as in general the principal is precisely the one whose interests should be safeguarded. To our knowledge, no theoretical model has been developed to analyze how banking supervision should be financed. Moreover, no theoretical explanations have been offered to explain existing financing structures. This is not surprising, as little attention has been paid to these financing structures. However, there is some related literature that may be relevant in the light of the subject of this paper.

⁵ Note, however, that there is a potential conflict is that between the objectives of macro- and micro-prudential regulation, more precisely between stability of the banking system as a whole on the one hand, and the health and efficiency of individual banks on the other (Crockett, 2001).

⁶ However, regulation may also be costly in terms of growth. See Guiso, Sapienza and Zingales (2003) for a case study of Italy.

Thus, Alesina and Tabellini (2004) have studied which policy tasks should be carried out by politicians, and which should be delegated to “bureaucrats”. They argue, that from the point of view of society it is optimal to let bureaucrats rather than politicians carry out tasks that have the following characteristics: a) they require a high degree of specific technical ability relative to effort, b) ex post preferences of the public are clear and no large flexibility is needed, c) time inconsistency is an issue, and d) powerful vested interests have large stakes in the policy outcome. Alesina and Tabellini conclude that in practice delegation usually does not meet these optimal criteria. Alesina and Tabellini (2005) show that this can be explained by assuming that politicians maximize the probability of rents from office holding, rather than social welfare. Politicians will hold on to policies that increase their probability of re-election, and delegate risky policies to bureaucracies to be able to shift the risk (and blame) on to them.

Banking supervision seems to fit the optimal delegation criteria rather well– technical ability is needed, public preferences are rather clear, there is a time inconsistency problem because there is an incentive for forbearance. Also, depending on the structure of the financial sector, the banking sector may be a highly organized powerful interest group.⁷ Banking supervision also has characteristics that make delegation to bureaucrats attractive for policy makers themselves. It has a high reputation risk - bank failures harm depositors and may therefore reduce re-election probabilities. The fact that both from the point of view of society and from that of politicians delegation is attractive may explain why we see that in practice supervision is indeed often delegated to bureaucrats.

In fact, already in 1997 the Basel Committee on Banking Supervision recognized the importance of political independence of prudential supervisors in the “Core Principles for Effective Bank Supervision” (BIS, 1997). In practice we do see that almost everywhere, and certainly in the industrial world, banking supervision is placed at a distance of the government and is delegated to what Alesina and Tabellini (2004) would label bureaucrats.⁸ Recent literature (Quintyn and Taylor 2002, 2003 and 2004; Das, Quintyn and Chenard, 2004 and Hüpkes, Quintyn and Taylor, 2005) confirms that the responsibility for prudential supervision should be delegated to an independent agency, provided that this agency has defined clear objectives and political independence, disposes

⁷ The delegation approach has been recently used to debate financial supervisory issues in Bjerre - Nielsen (2004). There are two theoretical models on banking supervision architecture – Repullo (2000) and Kahn and Santos (2004) - but without any explicit identification and discussion of the policymaker (lawmaker) objective function.

⁸ Recent changes in Poland indicate that financial supervision is under close scrutiny of politicians.

of adequate supervisory instruments to achieve these objectives, and is held accountable to ensure checks and balances.

Still, even with supervision placed outside the government, the actual independence of the supervisor may differ. According to Quintyn and Taylor (2004), supervisory independence has four dimensions 1) regulatory independence, associated with a wide autonomy in setting prudential rules and regulations; 2) supervisory independence from political interference and industry intimidation; 3) institutional autonomy associated with the security of tenure of supervisors; their legal protection against court proceedings stemming from measures adopted in the performance of their functions in good faith and the appropriate governance structure, and decision making processes which should be subjected to scrutiny from the public and the industry, and 4) budgetary or financial independence (Quintyn and Taylor, 2004).

Focusing on the fourth dimension, it is obvious that even with delegation, there is the risk that politicians, through the financing regime, interfere with supervisory policy, thereby potentially harming the quality of supervision. An implicit contract between the government and the banking supervisor – *a government driven contract* - could exist within the framework of the grabbing hand theory (Shleifer and Vishy, 1998).⁹ According to this theory, the contract would be designed to extract short term political rent from supervision. For example, the government may put pressure on the supervisor not to close a bank, as bank closure comes at a political cost, with depositors and possibly taxpayers being harmed (Quintyn and Taylor, 2002).

In addition to the risk of political interference with supervision, with the policy maker maximizing individual rather than social welfare, two other risks are potentially threatening the quality of supervision. There is the risk of regulatory capture by the supervised industry - the *industry driven* implicit contract. An implicit contract between the banking industry – as a vested interest group – or even between individual banks, and the prudential supervisor, is in line with the classic capture theory, which provides the analytical framework for any implicit contract between supervised institutions and their supervisors (Stigler, 1971). By identifying with the supervised institutions, or by being dependent on them, the supervisor may be tempted to serve the specific interests of the regulated firm(s). Note, however, that Alesina and Tabellini (2004) conclude that delegation is

⁹ The risks of political capture can emerge, given an institutional delegation framework that attributes financial supervision tasks to independent un-elected bureaucrats. The institutional design problem is analysed in Alesina and Tabellini (2004) from a society' welfare maximization point of view, while Alesina and Tabellini (2005) investigate the politicians' point of view, which have to decide what to delegate to bureaucrats and what to retain for themselves.

optimal in the case of powerful vested interests. Obviously, banks have incentives to resist both general prudential supervisory action and actions taken to limit activities of their individual institution. In the case of banking supervision, this may be for example by softer prudential regulatory requirements, special accounting rules, and forbearance in general

Finally, there is the risk that the bureaucrat pursues his self interest rather than that of society. This self interest may be his reputation, and it has been argued that this may result in regulatory forbearance (self bureaucrat capture, see Kane (1990), Boot and Thakor (1993)). The supervisor's behaviour could also be consistent with the “career concern model” as presented by Alesina and Tabellini (2004, 2005). Thus, the supervisor may aim at a future career in the banking sector or in politics, which may affect his current supervisory policy. This risk is more important in the case of more independence and should be countered by accountability measures and a mandate. This is why we will supplement our findings on the financing regime cum evidence on the general and budgetary accountability practices in a sub sample of countries (see section 4).

Obviously the interests of the government and/or the banking firms can capture the supervisor through the influence on its self interest, for example its career and financial reward. Alternatively, the banking industry capture could be an indirect case of political capture, or vice versa. In other words, the grabbing hand theory, the capture theory and the career concern theory can be deeply intertwined. This may be countered by transparency and accountability procedures on the supervisor's activities.¹⁰ Note, however, that transparency is not by definition a good thing when it comes to independence and the quality of policy. Thus, ECB minutes are not made public out of fear that ECB Board members may be influenced by national policy makers. As for banking supervision, some argue that it is optimal not to reveal which banks have received warnings and/or fines by the supervisor, because that might result in panic and a self fulfilling prophecy.

The ideal supervisor's explicit contract with society should be designed so that an implicit government-driven contract and an industry driven contract are difficult to establish. Moreover, it should be incentive-compatible: the supervisor should face incentives that induce it to maximize social welfare.

Using the financing regime as an instrument, one theoretical way to deal with the principal-agent and capture problems might be to link the budget of the supervisory agency (and the remunerations

¹⁰ Lastra and Shams (2001) examine the interrelationship between accountability and transparency and provide a definition of the latter.

of its managers) to performance. This would generate incentive-compatibility and make accountability less important: the supervisor would be provided with incentives that induce him to take decisions that are optimal for the principal (society as a whole). However, this is not easy to achieve, first of all because it is extremely difficult to find robust performance indicators of financial supervision, let alone indicators that are also useful for performance-linked budgeting purposes. For example, if the supervisor is rewarded for the absence of bank failures, it has an incentive to keep an unsound bank open. On the other hand, one cannot imagine rewarding a supervisor according to the number of closed banks. Moreover, it is not always clear that performance of the banking sector can be fully attributed to, or could have been prevented by, the supervisory authorities. Despite these practical problems, some countries – notably, the UK, Sweden, Australia and the Netherlands (see their websites and annual reports) - have tried or are trying to develop performance indicators, without however aiming to link the supervisor's remuneration to these indicators.¹¹ In sum, optimal financing rules might be able to contribute to the supervisor giving an incentive to fulfil its task.

Quintyn and Taylor (2004) claim that *political* independence remains the prime concern from the point of view of financial stability. Their conclusion is based on the empirical analysis of recent financial crises in *developing* countries where policymakers tried to interfere with the supervisory activity. In our view, however, it is an open question whether this conclusion applies to *developed* countries. A universally optimal model of financing prudential supervision may not exist because of the diversity of country-specific factors (e.g. political, legal and institutional traditions). For example, the more the banking sector is organised as a vested interest group, the less attractive it may be to use the banks as the source of supervisory financing. Alternatively, if the checks and balances on the political system are weak, potential political interference on banks' supervision makes public financing less attractive.¹²

It should be clear by now that the financing issue of supervision is relevant for other than beneficiary-considerations. Having said this, we leave the *optimal* model of financing for future research, and it is our guess that the optimal financing regime may depend on country

¹¹ The Canadian Office of the Superintendent of Financial Institutions (OSFI) proposes a general framework that links its two strategic goals (to contribute to public confidence and to safeguard from undue loss) with different performance measurements (number of involuntary closures of financial institutions initiated by OSFI, OSFI's treatment of companies in difficulty, etc.) for accountability purposes (see OSFI 2005). In England, the Financial Services Authority (FSA) presents a Business Plan, which explains its priorities and commits to allocate and use resources in an efficient way, setting the budgetary levels of expenditure and the relative plan for funding (see FSA, 2004 and 2005).

¹² Note that this paper does not attempt to respond to the question of how much should be paid for supervision. This issue is relevant, but beyond the scope of this paper.

characteristics. Rather, we will use our data base to assess actual structures of the financing of banking supervision.

3. Supervisory Architectures and Financing Rules: A Cross – Country Overview

A financially independent supervisor is one that possesses the necessary resources to pursue its mandate, without any veto player interference.¹³ The veto player can be a political body (political capture risk) or the supervised institutions (industry capture risk) or both. Consequently the degree of financial independence from politicians is higher the lower the role of politicians – as taxpayers' representatives – in determining the size and use of the supervisor's budget (*public funding*). On the other hand, the risk of regulatory capture may be higher with industry funding. Moreover, there might be a link between the supervisors' policy and its funding because of the capacity of the supervisor to impose penalties and fees on the supervised institutions. This requires special accountability provisions. It needs to be highlighted that an additional advantage of industry financing is that fees could be risk-based. In this case, banks that have a high risk profile and need more monitoring pay more for any given balance sheet size. Still, a complete fee based financing (*private funding*) can create regulatory capture, with the banks as potential veto players. Moreover, during a slow down banks may need more supervision, but have less resources to finance it. The latter problem could however be solved by an over-the-cycle budgeting procedure (a fund).

Finally, a combination of public and private financing (*mixed funding*) is conceivable and might be motivated by the consideration that, on the one hand, supervised institutions should pay because the supervisor creates the conditions under which they are trusted by the public (depositor protection approach), and, on the other hand, the benefits from prudential supervision accrue to society as a whole (externalities approach). Moreover, it might be that independence is easier to achieve if the supervisor has two sources of funding.

Furthermore, given a particular budget constraint, accountability provisions should ensure that the supervisor manages its resources in a cost-effective way.

¹³ This is easiest if supervisory costs are paid out of seigniorage, in a contract where the profits of the central bank, after deduction of expenses, go to the treasury. In this fashion, supervisory costs are so to speak 'hidden' in the total expenses for monetary policy, the payment system, etc. Therefore it is to be expected that if supervision is taken care of by the central bank, it is more likely that financing will come at least partly from the taxpayer through seigniorage. If costs are not hidden, the budget may need approval. Finally, it could be that certain expenditures, at a discretionary basis, may be vetoed.

This section describes the sources of financing of bank supervision in 90 countries. Before identifying how supervision is financed, it is necessary to find out for each country in our sample which is the institution that is responsible for carrying out banking supervision. As noted above, the architecture of financial supervision has undergone important changes in a number of countries, while it is, in other countries, an issue that is discussed by policy makers and academics alike.¹⁴ Therefore, this section first identifies the bank supervisory authorities in the countries of our dataset.¹⁵ Second, it presents empirical data on the financing sources – public, private or mixed – of financial supervision. As shown below, there seems to be a correlation between the institutional design of supervision on the one hand, and the financing of banking supervision on the other.

As we have noted in the introduction, our analysis is limited to banking supervision. However, as noted below, countries that have a supervisory agency outside the central bank have usually combined the tasks of banking, insurance, securities and sometimes pension fund supervision in one institution.

The Architectures of Financial Supervision: Banking Supervision

The reform of the financial supervisory architectures has taken (and takes) place in the context of growing vertical, horizontal and international integration of the banking, securities and insurance industries (financial blurring effect). Until recently, in fact, it was easy to distinguish the three financial sectors in most countries, and the organization for the supervision of financial intermediaries also followed a “sectoral” model, so that (at least) one supervisor corresponded to each sector. The blurring of distinctions between financial markets, instruments and providers of financial services (conglomeration) made the “sectoral” model obsolete, revealing its risks in terms of effectiveness, due to the possibility of regulatory arbitrage, and efficiency, due to the costs of controls for the regulated entities and diseconomies for the regulators.

As a result of these phenomena, a wave of reforms of financial supervision architectures has taken place since the second half of the 1990’s. The wave of reforms reached its peak so far in 2003, with eight countries reforming their institutional design of financial supervision. Changes have taken place from the traditional model based upon financial sectors (banking, insurance and securities) towards two distinct types of models: *a goal based model* or “twin peaks”, adopted in the Netherlands, where the organization of the regime is driven by what the organization is trying

¹⁴ The link between banking crisis, supervisor’s reputation failure and reform of the supervision architecture in the case of Estonia, Latvia, Korea and United Kingdom is described in Masciandaro (2005).

¹⁵ For a review of the trend in supervisory architectures see Masciandaro (2004).

to achieve- e.g. macro prudential and micro prudential stability on the one hand and investor protection on the other (see however Crockett, 2000), or a *single financial authority (SFA) model*, in which the supervision of the three sectors is entrusted to a single authority responsible for complying with the aforementioned objectives (e.g. among others Austria, Germany, Japan, Sweden and UK). The different architectures for the supervision of financial intermediaries have advantages and disadvantages, which have been recently examined in the academic literature and which we will not describe in this paper.¹⁶

Note, that the emergence of a single authority is the ultimate and most visible outcome of a more general and gradual process of unification and integration of financial supervision. This differs from country to country in its speed and degree of unification. Thus, even where full integration or another major change in the architectural design may not have been accomplished, supervisory authorities have in general moved towards more co-operation.

Our first goal is to see whether we can find a pattern in the responsibilities for banking supervision and the degree of concentration of financial supervision. For this purpose we use two indices developed by Masciandaro (2004, 2005, 2006). The first is the Financial Authorities Concentration Index (FAC) which is based on the number of authorities that supervise the three traditional financial sectors - banking, securities, insurance – in any given country in our sample. Of course, developments in financial technology have made the distinction between these types of institutions sectors and their products to a certain degree obsolete (Merton 1995), Merton and Bodie 2005). This is one of the reasons why many countries have chosen for integrated supervision, or for functional supervision.

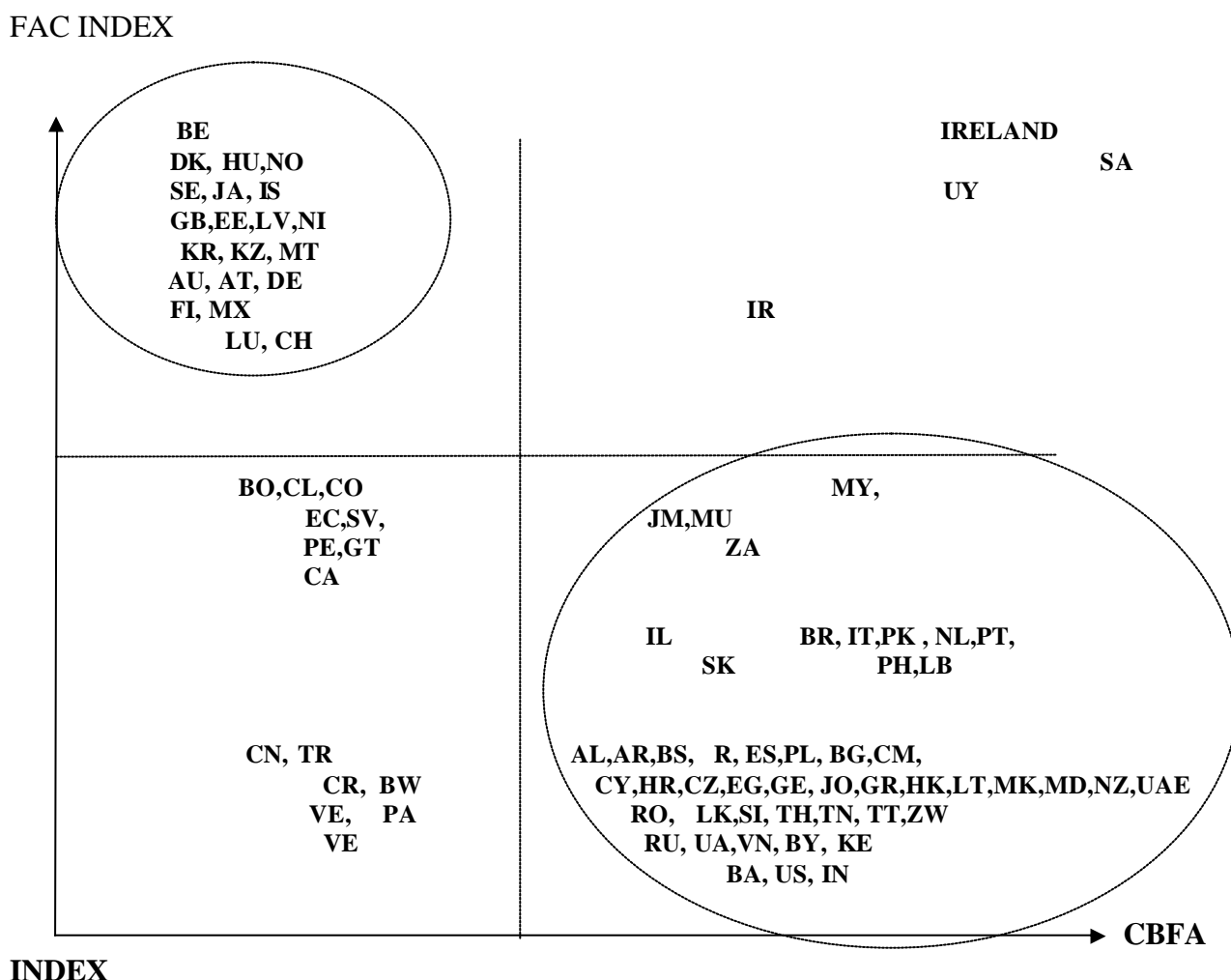
The second index aims at identifying quantitatively the role of the central bank in banking supervision. Central banks traditionally have the role of lender of last resort, and in this way they contribute to stability of the banking sector. However, in addition the central bank may or may not be involved in the prudential supervision of banks. We measure the central bank involvement in prudential banking supervision by using the Central Bank as Financial Authority Index (CBFA Index) constructed by Masciandaro (2004, 2005, 2006). The CBFA Index gives the degree of involvement of the central bank in supervision. In 55 countries of our sample banking supervision is carried out by the central bank, whereas in 35 countries it is entrusted to an agency outside the central bank.

¹⁶ Taylor, M. (1995); Abrams and Taylor (2000); Di Giorgio, di Noia and Piatti (2000), Lannoo (2002) and Nieto and Peñalosa (2004).

Using these two indices each national supervisory model can be characterised by the degree of concentration of supervision (FAC Index) and the degree of involvement of the central bank in supervision (CBFA Index). For details about these indices including their construction and the values for the countries in our sample, we refer to Masciandaro (2004, 2005, 2006). (For the dataset of countries and their abbreviations as used in the figures below, see the Appendix) For the purpose of our paper, it suffices to see whether there is a relationship between the indices. The answer is yes, as is illustrated by Figure 1, which gives the FAC index on the vertical axis, and the CBFA index on the horizontal axis. As Figure 1 reveals, the two most frequent institutional arrangements of financial supervision are polarized. There are on the one hand countries with a high concentration of supervision and low central bank involvement (Single Financial Authority regime), in which all financial supervision is in the hands of one financial supervisor. On the other, countries with a low concentration of supervision (multiple supervisors) and heavy involvement of the central bank (Central Bank Dominated Multiple Supervisors model). To complete this picture, there are some countries with both low supervisory concentration and low central bank involvement, in which the banking supervision is managed by a specialized institution, and very few countries with a de facto monopolist central bank. In sum, there seems to be a trade-off between the degree of supervisory concentration and the degree of central bank involvement.

A small group of countries have adopted a banking-and-insurance supervisor, while others have a banking-and-securities authority. Finally, in some countries the banking sector is supervised, for prudential purposes, by more than one authority

Figure 1: Concentration of supervision (FAC Index) and involvement of the central bank in banking supervision (CBFA Index) (2005)



Source: Constructed by the authors on the basis of Masciandaro (2004, 2005).

Note: for country abbreviations, see the Appendix, Table A

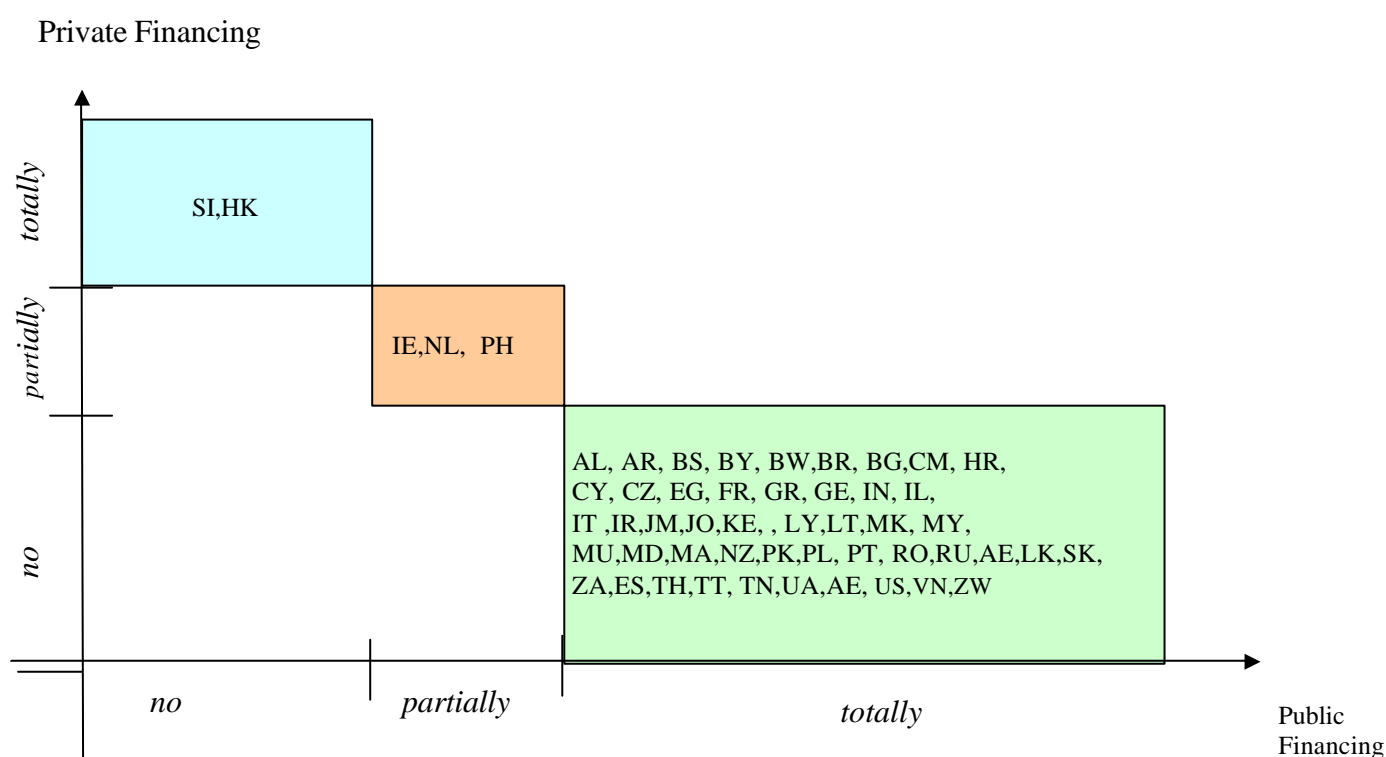
Financing Rules of Banking Supervision

Having identified who is responsible for banking supervision in the countries of our sample – the central bank, another single authority for banking supervision, or a separate integrated financial supervisor, we now turn to the financing structure of banking supervision.

The source of financing of banking supervision may come directly (budget assigned by government) or indirectly (seignorage) from tax payers. Alternatively, prudential supervision may be financed by the regulated sector. Finally, financing of supervision may come from both sources. On the basis of the information that we have gathered Figures 2 and 3 give an overview of the

financing sources of banking supervision. Figure 2 provides a picture of the financing regime of the supervisory effort in countries where the central bank is responsible for supervision. In our dataset, this applies to 35 countries. It clearly shows that full public financing is the most common budgetary arrangement where central banks are banking supervisors. This is the case in 30 of the 35 countries where the central bank supervises the banking sector. Three countries apply mixed public-private funding of banking supervision by the central bank, and in two countries the banking supervision activities of the central bank are fully privately financed.

Figure 2
The funding of central banks as banking supervisors



Note: for country abbreviations, see the Appendix, Table A

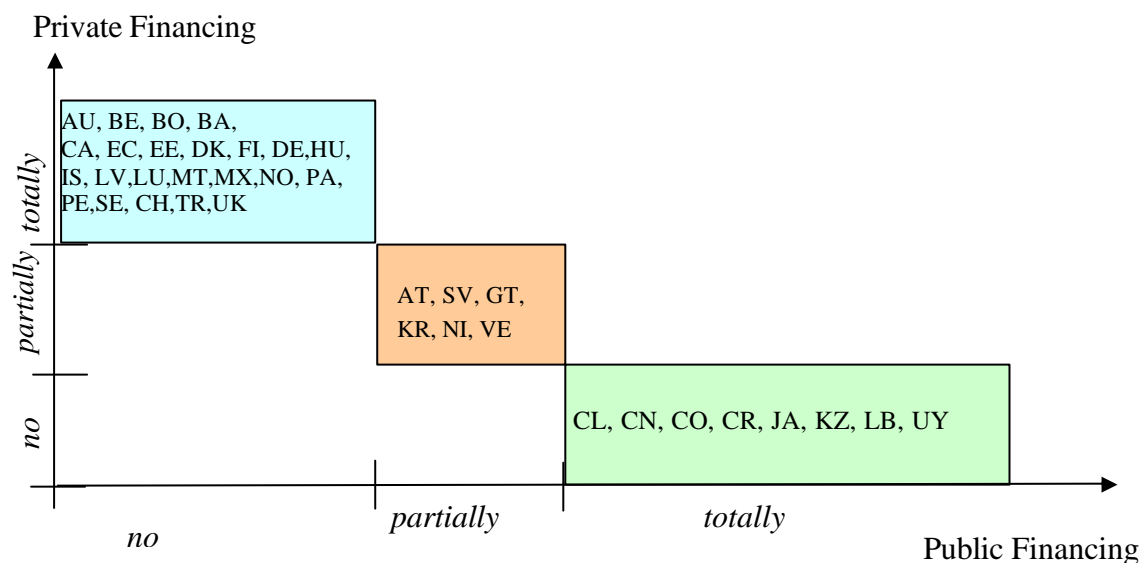
Figure 3 presents a different picture. It shows the funding of banking supervision carried out by separate supervisors – be it integrated financial supervisors, or a separate banking supervisory authority. As Figure 3 clearly shows, separate supervisors are more often financed by the supervised sector (23 out of a total of 37 countries) than by the tax payer (8 out of 37 countries). An example is Japan, where the Financial Services Authority has no budgetary independence and

it is fully funded from the central government budget (IMF 2003a).¹⁷ As Figure 3 also shows, mixed public/private funding applies to a minority of 6 separate supervisors.

Figure 3

The funding of separate authorities as banking supervisors

Note: for country abbreviations, see the Appendix, Table A



Both public and private funding may have different characteristics. Public funding may come from using part of the profit coming from seignorage to finance supervisory activities, or from a specific earmarked budget provided by the treasury. The characteristics of private funding may differ too. For example, they may or may not depend on bank size, supervisory intensity, etc

Our survey results reveal that in countries where central banks are responsible for supervision, seignorage is often the only source of financing of banking supervision. There are exceptions, however. In two countries, notably Hong-Kong, and Slovenia, the supervision carried out by the central bank is fully financed by banks. The Hong Kong Monetary Authority (HKMA) funds its supervisory activities by license fees collected from supervised institutions. The budget is approved by the government. The HKMA absorbs, if needed, the deficit not covered by the license fees. In Slovenia, banks pay an annual fee based on risk weighted assets. In addition, banks pay penalty fees when on-site examinations reveal irregularities. Penalty fees are calculated as a multiple of the

¹⁷ In Germany, both the Bafin and the Bundesbank supervise the banks. As the Bafin is the most important authority, we have taken it to be the dominant supervisor.

number of hours examiners have used to examine the penalized institution and the hourly fee for examiners' work according to the tariffs of the Bank of Slovenia. The Bank of Slovenia informs to the National Assembly of the Republic of Slovenia about its annual financial statements and its financial plan. One explanation of the tax-financing regime prominent in countries where the central bank supervises the banking sector is that the (taxpayers) money is there thanks to seignorage, hence no explicit fundimng activities are needed. Although this may be efficient, it certainly is not deliberately chosen on the basis of considerations of supervision quality.

There are some notable differences in characteristics between countries with private financing. In the UK the Financial Services Authority (FSA) is financed by fees charged to the regulated community. The budget is decided upon by the FSA itself. The fees are of three types. There are application fees, which are a contribution to the cost of processing application of new firms seeking authorization or variations in their permission. Second, there are annual fees – they are the most important financing source - based on the size of supervised firms and the costs of regulation such as the implementation of EU Directives.¹⁸ Third, the FSA charges special project fees for regulatory work performed primarily for the benefit of a single firm or small group of firms (FSA, 2006). In Sweden, the cost distribution is primarily based on time spent on certain categories of institutions and secondly based on the size of institutions. The budget is proposed by the government and decided upon by the parliament. Bank supervision may also be financed by both taxpayers and supervised institutions. This is the case in Ireland and the Netherlands. These countries all have their central banks taking care of prudential supervision of banks (although in the Netherlands the supervisory division within de Nederlandsche Bank has a legal status that differs from the monetary division). In Ireland, seignorage amounts to 50% of the financing of the Irish Financial Services Authority. In the Netherlands, a separate budget is established for the supervisory branch within the central bank. Of this separate budget, 35% is funded by the government; the remainder is funded by the private sector.

Most central banks that carry out prudential supervision of banks in our sample have a budgeting process for their supervisory activities that is identical to that of the central bank. This is why in Ireland the Irish Financial Services Authority, in spite of being a separate body within the legal

¹⁸ See FSA press release on regulatory fees and levies 2006/2007;
<http://www.fsa.gov.uk/pages/Library/Communication/PR/2006/009.shtml>

entity of the Central Bank of Ireland, shares the same budgeting process. On the contrary, the Dutch central bank has a separate budgetary approach for supervisory activities.¹⁹

4. Financial Accountability Arrangements for Banking Supervisors

In the previous section, we have seen that financing practices of banking supervision differs between countries. Assuming that the financing regime may have implications for supervisory independence and policy, it is worthwhile to study the accountability arrangements, and more specifically the budgetary accountability, in the various countries of our sample that responded to the survey conducted via the BIS governance network.

In fact, independence (including the financial independence) of unelected officials such as prudential supervisors might be reconciled with democratic legitimacy through accountability. Accountability requires *"at the very least that the agency explain and justify its actions and decisions and give account in the execution of its responsibilities"* (Lastra and Shams, 2001). Furthermore, accountability goes beyond giving information. It also involves motivating the policy actions of the supervisor in the light of his mandate and/or social welfare.

At first sight, it would seem optimal from the point of society to have stricter accountability arrangements vis-à-vis society where supervisors have more independence – including financial independence - from the policy maker. On the other hand, if the banking sector finances supervision, it may demand accountability, but one might argue that there is less of an incentive for the policy maker to set strict accountability standards. However, the latter reasoning may not hold, as it is in the general interest to prevent regulatory capture of the supervisor by the banking sector. Hence in our opinion it is an open question whether, from the viewpoint of social welfare, the financing regime would have unambiguous implications for the accountability regime

As stated by the International Monetary Fund (IMF), good governance calls for supervisors (central banks and separate supervisors) to be accountable, particularly where monetary and financial authorities are granted a high degree of autonomy (IMF 1999). This section describes firstly the accountability practices related to the financial accounts and secondly the general accountability

¹⁹ In the Netherlands, the organizational budget is split in two parts, one for the DNB as a central bank and one for DNB as a prudential supervisor. The budget for supervisory duties of the DNB is drawn up by the DNB after consultation with panels consisting of representatives of supervised institutions. The budget is endorsed by the DNB Supervisory Board and, submitted for approval to the Ministers of Finance and of Social Affairs (to the latter because of pension supervision duties).

arrangements toward government, parliament, the banking industry and the end users of banking services. Our data are collected both by our own questionnaire and through a questionnaire distributed by the Governance Network of the Bank for International Settlements. Details on accountability procedures are presented in the Appendix.

Financial accountability

The most common instrument of accountability is the presentation of financial accounts. Supervisors generally present their financial accounts with pre-announced schedules either because they are required by law or because they choose to do so. Japan, where the supervisors do not publish any financial statement, is an exception to the general financial accountability practices explained by the lack of budgetary independence of the SFA (IMF 2003a). In Finland, where the specialized banking authority is a part of the Central Bank of Finland and, as such, it does not have separate accounts, the SFA is not obliged by law to publish its financial accounts.

In the case of prudential supervisors within CBs and financed exclusively by seigniorage,² the budgeting process and financial statements are in general those of the central bank. They also share financial statements in the case of prudential supervisors financed by supervised institutions that operate within CBs and, as a consequence, do not have separate assets and liabilities.

For example, in the Netherlands the budgetary processes of the CB and the supervisory activities are different. The CB as prudential supervisor, however, does not publish a separate account from the CB. In Ireland, the SFA under the umbrella of the Central Bank of Ireland chooses to publish only the income and expenditure statement of supervisory activities. Also, in Finland, the specialized unit only publishes the yearly budget and the income statement of supervision. In other countries such as Hong Kong and Slovenia, the authorities do not disclose revenues and costs of financial supervision.

Hüpkes, Quintyn and Taylor (2005) argue that financial accountability should be limited to the review of the annual accounts and balance sheets by independent auditors. This is a widely accepted practice among SFAs and CBs although, as mentioned above, in the latter case, the accounts of the supervisory activity are generally integrated with those of the central bank.²⁰ The SFA of Germany seems to be an exception to this rule, since the budgets of the BaFin area publicly disclosed on its website but so far it has not published any audited execution reports of the budgets (IMF 2003b).

²⁰ The CBs within EMU are required to present audited annual accounts according to the European System of Central Banks Statute (art. 26.4).

In most cases, supervisors are required by law to present independently audited financial statements but, in some countries such as Ireland and the US, the authorities choose to do so but are not legally required. In Ireland, the Central Bank of Ireland is audited by the Comptroller and Auditor General and a government appointed private sector firm (IMF 2001). In the Netherlands, the annual audit report must be signed by all members of the Supervisory Board and the Governing Council and submitted to the government in its capacity of sole shareholder. In Spain, the audited accounts of the CB which also include those of the supervisory activities, once approved by the government are sent to parliament for information. In the UK, the Treasury may commission independent financial reviews of the FSA operation (Lastra and Shams, 2001). In Sweden, the SFA gives account of its operations and performance in its Annual Report, which is subject to independent review by the Swedish National Audit Office (IMF 2002).

The annual report is the most common mean of disclosure of the annual audited accounts. Nonetheless, a number of countries also use other means such as the official documents (Austria, Spain and the US) and/or public releases to the media (Belgium, Austria, Ireland, New Zealand and US). SFAs generally disclose detailed information on operating expenses and revenues of their supervisory activity and also publish decisions on warnings and fees with respect to individual banks. In general, CBs do not seem obliged by law to separate the operating expenses and revenues of their prudential supervisory activity. In Ireland, the SFA under the Central Bank of Ireland's umbrella chooses to do so. Nonetheless, a number of CBs with prudential supervisory responsibility such as those in Ireland, the Netherlands, Portugal, and the US do publish decisions on warnings and fees with respect to individual banks.

In addition to the external audit, another form of financial accountability may be ensured by an internal audit that provides assurance to the Board and/or Parliament that the fit for purpose internal control framework is maintained and operated by the management responsible for prudential supervision. Although, not as conspicuously used as the external audit, the internal audit function does exist both in the case of SFAs and CBs although in the latter case, it is shared with the central bank functions. In the UK, the Business Review and Audit Division of the FSA reports to the Board, while in the US, the inspector general to all major agencies, including the Board of Governors of the Federal Reserve System, conducts independent and objective audits and other reviews and reports both to the head of the Agency and Congress.²¹

²¹ U.K.: FSA (2004), and U.S: Hüpkes, Quintyn and Taylor (2005).

Table B in the Appendix gives a detailed overview of the financial accountability of banking supervisors in selected countries

General accountability

Regarding the general accountability arrangements, these vary in terms of accountors as well as regarding the content and form. While the Parliament and government are the most obvious accountors, arrangements that also include other groups such as the supervised institutions and the public at large are becoming more common.

The accountability to the parliament is aimed at determining whether the powers delegated to the supervisor are exercised effectively according to the mandate and at providing a communication channel to amend legislation (Hupkes, Quintyn and Taylor, 2005). Figures 4 and 5 picture the accountability for central banks and separate banking supervisors separately, distinguishing between accountability to the parliament and accountability to the government. As Figure 5 shows, 7 out of our dataset of 37 countries in which the central bank is involved in banking supervision are explicitly accountable to both the parliament and the government, 16 are explicitly accountable to the parliament only, and 11 are explicitly accountable only to the government. Finally, two countries have no accountability for the central bank involved in banking supervision to either parliament or government. Figure 6 shows, that out of the 18 countries in our sample where banks are supervised by a separate institution 6 are accountable to the parliament and the government, 10 to the government only and 2 to the parliament only. Hence all separate supervisors in our sample are accountable to either parliament or government or both.

The general picture that emerges is therefore the following. Central banks as banking supervisors are more likely to be accountable to the parliament than are the separate banking supervisors. Note, however, that the central banks are often accountable for their activities in general, and not specifically for prudential supervision. Spain is an exception since according to the law the Annual Supervision Report shall be submitted to Parliament. In Ireland, the SFA under the umbrella of the CB is accountable to the parliament for its supervisory and regulatory activities. In Finland and Belgium, the separate supervisors are accountable to the parliament by law. In the UK, the separate financial supervisor is indirectly accountable to Parliament through the Treasury, which submits to Parliament the FSA's annual report.

Accountability to the government should be aimed at informing about developments in the financial sector and about regulations to be implemented by the banking sector (Hupkes, Quintyn and Taylor, 2005). Accountability arrangements differ between countries also with regard to the type of information to be presented. While separate supervisors included in the sample are accountable to the government in all cases, approximately 50% of the central banks included in the survey are not accountable to government. The most common arrangements are regular reports to the Treasury or other members of government (UK, Austria, Ireland, the Netherlands, Spain and Sweden); reporting of proposals of new regulations (Belgium) and /or the representation of government in the oversight boards (Belgium, UK, Austria, Ireland, the Netherlands, Portugal, Spain and Sweden). In Germany, the BaFin is subject to the legal and supervisory control of the Minister of Finance. In Japan, the minister of financial affairs is "*de facto*" in charge of managing the separate financial supervisor, creating scope for the supervisor to be subject to political pressures (IMF, 2003b).

Figure 4 Supervision Accountability: Central Banks that are banking supervisors

Note: for country abbreviations, see the Appendix, Table A

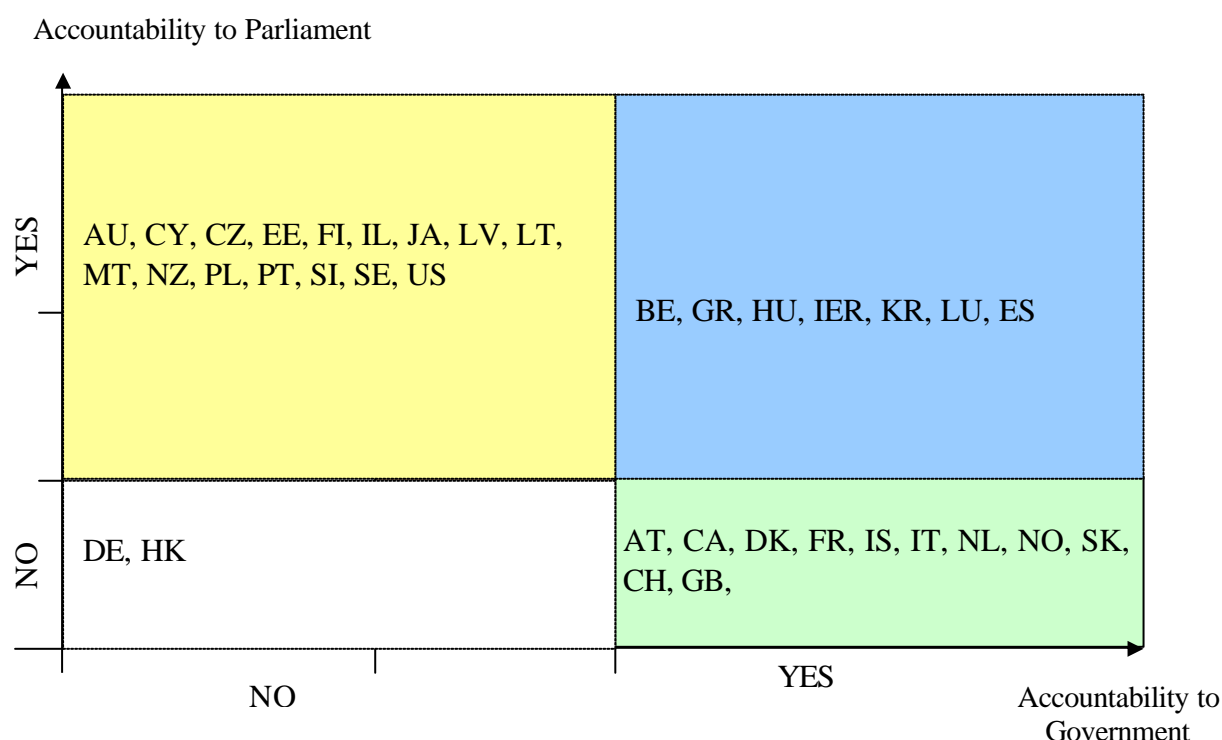
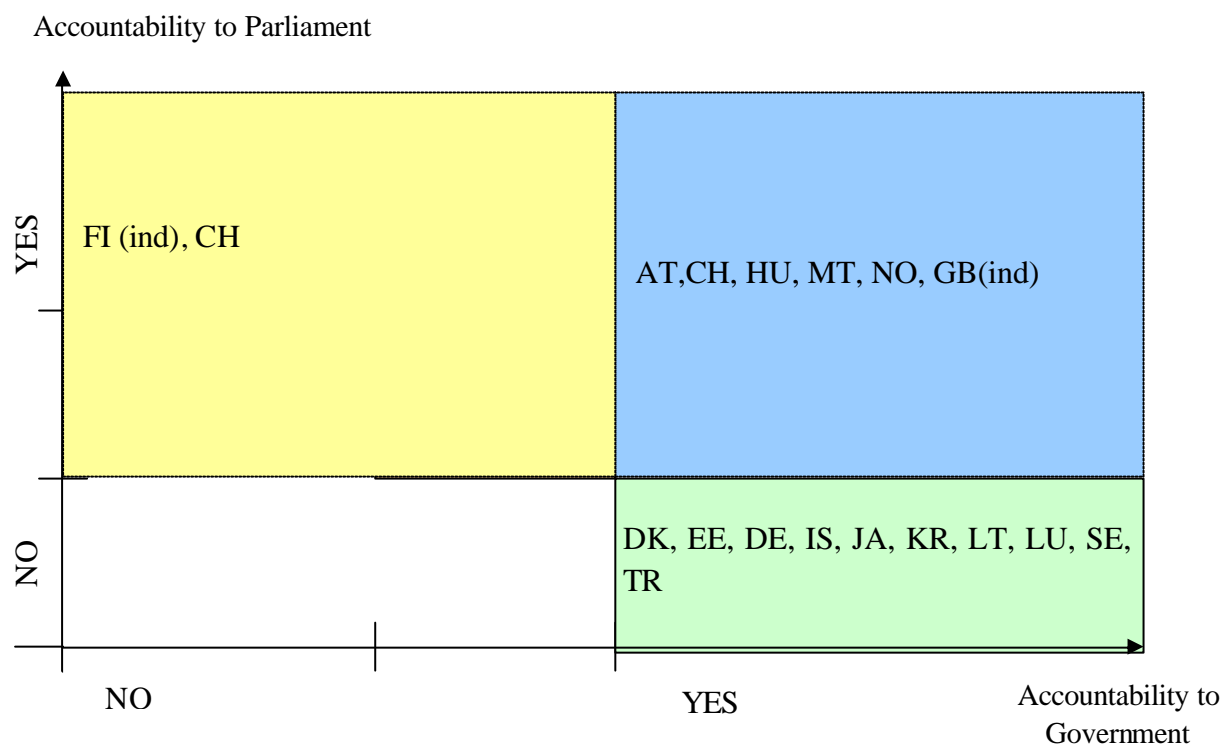


Figure 5 Supervision Accountability: separate banking supervisors

Note: for country abbreviations, see the Appendix, Table A



In addition to accountability to the public through public institutions (parliament, government), there may be explicit accountability to the banking industry and end users of banking services. This should be aimed at enhancing public confidence in the financial supervisor and at increasing the acceptability and effectiveness of the supervisory process; regardless of the fact that the prudential supervisors be financed partially or entirely by the supervised institutions (Hupkes, Quintyn and Taylor, 2005).

We have some anecdotal evidence about accountability to the industry for a subset of countries only (See Table 1).²² From this the following picture emerges. In some cases, accountability to the supervised industry is required by law. This is the case for both separate supervisors (UK, Sweden and Belgium) and for central banks (Netherlands, Spain and Portugal). In the UK, the law requires the FSA to establish and maintain consumers' and practitioners' panels to consult with the supervised institutions and end users of financial services (Lastra and Shams, 2001). In Sweden, the basic constitutional principle is that all types of official documents are to be publicly available, with

²² When this paper was already in print, a study by Quintyn, Loyda Ramirez and Taylor (2007) was published on changes in accountability and independence of financial supervisors.

very limited exceptions as defined in the Secrecy Act. Moreover, the accountability requirements of the separate supervisor are stipulated by a law that prescribes the form of annual reporting and financial statements required of all government agencies (IMF, 2002). In Spain and Portugal, where supervision is fully financed by seigniorage, the Bank of Spain is required by law to be accountable to the banking sector and the Bank of Portugal is also legally required to be accountable to the consumers of financial services. Moreover, even in those cases in which such accountability arrangements are not required by law, the supervisor (either central bank or separate authority) often chooses to be accountable to the banking sector and/or consumers (US, Germany, Ireland and Finland). The most common forms of this type of accountability are the public mission statements, regular reports on supervisory activities and consultation of new legislation, all of which are often made available on their web sites. The Netherlands publishes a Quarterly Bulletin and uses its web site to announce some of its decisions. In Ireland, the supervisor is not required by law to be accountable to the supervised institutions and end users; however, it chooses to consult with the consumer and industry panels prior to the introduction or amendment of supervisory policies.

Table 1 Accountability of the banking supervisor to industry and financial consumers: anecdotal evidence

Accountability to the industry required by law:	UK, Spain, Portugal
Accountability to financial consumers required by law:	Portugal
Accountability to industry and/or financial consumers chosen by supervisor:	US, Germany, Ireland, Finland, Netherlands

In sum, there seems to be positive relation between the public source of financing and the accountability to Parliament aimed at determining whether the powers delegated to the supervisor are exercised according to the mandate. Nonetheless, there are exceptions such as Finland, Slovenia, Belgium and Ireland where the prudential supervisory activities are either fully (Finland, Slovenia, Belgium) or partially (Ireland) financed by the supervised entities and the banking supervisor is also accountable to Parliament. At the same time, there seems to be a relation between the private source of financing and the accountability to government with the purpose of informing

about developments in the financial sector and about regulations to be implemented by the banking sector. In spite of being fully financed by the industry, in Finland supervisors are not accountable to government.

5. Future work

This paper has focused on finding general patterns in the financing regime of financial supervision, notably banking supervision. In a follow-up we will use our data for a cross-country econometric analysis aimed at identifying explanatory variables of the chosen financing regimes. A potential determinant of the financing structure of supervision is the *financial structure* in a country. In a bank-based regime the policymaker has a stronger incentives to establish public funding to increase the probability to be the veto player, in order to prevent the risk of regulatory capture by supervised firms. Along the same lines, the *degree of concentration* of the financial sector may matter. A more concentrated banking sector may imply the danger of regulatory capture by a well organised and powerful interest group. Another determinant may be the degree of *conglomeration* and the scale of *cross-border activities* of the banking sector. Also, the quality of governance of political institutions may affect the actual as well as the optimal financing rule. An analysis into the determinants of the financing structure of supervision should therefore take an indicator of *good governance* into account. It may also be useful to distinguish between developed and developing countries, e.g. by dividing the country sample into OECD and non-OECD countries.

There are other qualitative variables that may be used to try to explain the characteristics of the financing structure.²³ The law-cum-finance literature states that there is a strong relationship between market-oriented financial systems and common law jurisdictions. English law is assumed to protect the individual investor more than does the French and German code.²⁴ Besides, the dynamic law and finance view emphasizes that *legal traditions* differ in terms of their abilities to adapt to changing environments, and that common law is more dynamic (Beck, Demirguc-Kunt and Levine, 2001). This might imply that in common law countries, rules and regulations respond more promptly to changing financial structures.

²³For example, in Demirguc-Kunt, Laeven and Levine (2003) regulation become insignificant in explaining banking performance when checking for institutional indicators.

²⁴For a survey see Beck, Demirguc-Kunt and Levine (2001).

Finally, for several reasons a *geographical factor* might be important in explaining the supervisors' financing rule. Europe has witnessed important reforms of the national financial architectures over the past decade. Cross border activities of the financial sector within a region may have prompted a response by policy makers. The establishment of the European Central Bank and the common currency in 12 neighbouring countries has triggered a debate about harmonisation and centralisation of financial supervision. Finally, recent literature emphasizes the role of geography in shaping institutions (Acemoglu, Johnson and Robinson, 2001). Hence through *peer group effects* the choice of supervision financing may mimic that of neighbouring countries.²⁵

The *history* of both the institutional development of supervision and that of *financial stability* may also play a role. For example, in those instances in which insurance supervision was traditionally developed bottom up and therefore financed by the supervised firms, it is more likely that a conglomerated financial sector will have at least some private funding of supervision. Moreover, it could be that countries with an *international financial sector* are more subject to peer group pressure to choose a particular type of financing. Finally, large scale *financial scandals* may have affected the monitoring of supervisory activities by the government, including budgetary monitoring and the financing rule.

6. Conclusion

This paper has presented a cross-country comparison of the financing regime of banking supervision. Based on the existing data, the conclusion is justified that the different financing regimes do not seem to have been chosen deliberately with the purpose of either having the beneficiaries pay for supervision, or of creating incentive-compatibility and reducing the risk of regulatory or industry capture by the supervisor. We have been able to discover a pattern in the choice of financing, however, as there seems to be a correlation between the financing regime on the one hand and the institutional design of supervision on the other. Where central banks are the supervisor, public funding is more likely, whereas the bill of a separate supervisor is in most cases paid by the regulated industry. Moreover, there seems to be a trend toward (partially) private financing, as countries where supervisory authorities have been recently established and countries that have recently changed their supervisory structure have, as a rule, introduced private funding. It might be that the correlation between the institutional design and the financing regime is due to a

²⁵ Masciandaro (2005) and (2006) tests a legal neighbour effect in explaining the overall supervision architectures.

third factor: the date of establishment or change of the institutional structure, perhaps reflecting a changing view on the role of the government vis-à-vis the private sector. We also observe a relationship between sources of financing and accountability arrangements. Public financing is more often associated with accountability towards Parliament, while private financing seems to go hand in hand with accountability towards the government.

Further analysis is required to see whether the choice of funding of banking supervision is deliberate, or whether it is a more or less accidental result of historical developments. Reflecting on whether the development of the financial supervision architecture is deliberately designed or accidental, Goodhart (2004) defends that the design of supervision is essentially reactive, lagging behind innovation and evolving risks, and that the reasons for supervisory reforms are largely political. Goodhart does not include the financing structure, but his reasoning might equally apply to the financing regime of supervision.²⁶ One would like to see that the choice of funding is deliberately aimed at maximizing the quality and efficiency of supervision and hence fostering social welfare, but we doubt whether this holds in practice. The alternative is that the financing structure is a more or less casual, path dependent variable, or that it is chosen on the basis of political rent-seeking.

From the methodological point of view, the fact that no theoretical optimal budgetary model has been developed may lead to different conclusions. It could be that society believes that financing rules do not matter and that these rules are chosen or have developed randomly. The alternative is that the financing model of supervision depends on country specific circumstances. Further analysis of the rules as well as their association with the accountability arrangements of bank supervision is needed to understand differences in and developments of the financial governance of supervision.

²⁶ The concept of rules driven path dependence has been recently used in the corporate governance literature: see, among others, Bebchuk and Roe (1999), Clark and Wojcik (2003).

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Appendix

Table A: Countries and their abbreviations as used in the paper

Albania	AL	Luxembourg	LU
Argentina	AR	Macedonia	MK
Australia	AU	Malaysia	MY
Austria	AT	Malta	MT
Bahamas	BS	Mauritius	MU
Belarus	BY	Mexico	MX
Belgium	BE	Moldovia	MD
Bolivia	BO	Morocco	MA
Bosnia	BA	Netherlands	NL
Botswana	BW	New Zealand	NZ
Brazil	BR	Nicaragua	NI
Bulgaria	BG	Norway	NO
Cameroon	CM	Pakistan	PK
Canada	CA	Panama	PA
Chile	CL	Peru	PE
China	CN	Philippines	PH
Colombia	CO	Poland	PL
Costa Rica	CR	Portugal	PT
Croatia	HR	Romania	RO
Cyprus	CY	Russia	RU
Czech Republic	CZ	Saudi Arabia	SA
Denmark	DK	Slovak Republic	SK
Ecuador	EC	Slovenia	SL
Egypt	EG	South Africa	ZA
El Salvador	SV	Spain	ES
Estonia	EE	Sri Lanka	LK
Finland	FI	Sweden	SE
France	FR	Switzerland	CH
Georgia	GE	Thailand	TH
Germany	DE	Trinidad Tobago	TT
Greece	GR	Tunisia (TN
Guatemala	GT	Turkey	TR
Hong Kong	HK	Ukraine	UA
Hungary	HU	UAE	AE
Iceland	IS	UK	GB
India	IN	USA	US
Iran	IR	Uruguay	UY
Ireland	IE	Venezuela	VE
Israel	IL	Vietnam	VN
Italy	IT	Zimbabwe	ZW
Jamaica	JM		
Japan	JP		
Jordan	JO		
Kazakhstan	KZ		
Kenya	KE		
Korea	KR		
Latvia	LV		
Lebanon	LB		
Libya	LY		
Lithuania	LT		

Table B Financial accountability details: Selected countries

Country	Balance Sheet		What are the means of disclosure of the bance sheet?					Independent Auditor		Operating expenses and revenues		
	The prudential supervisor publishes its balance sheet with preannounced schedule by law	The prudential supervisor chooses to publish its balance sheet with preannounced schedule	Official documents (e.g. official gazette)	Annual Report	Public release to the media	Fixed periodicity	delay of disclosure up to 3 months	The banking prudential supervisor discloses audited financial statements by an independent auditor by law	The prudential supervisor chooses to disclose audited financial statements by an independent auditor	The banking prudential supervisor discloses information on operating expenses and revenues of financial agencies by law	The prudential supervisor chooses to disclose information on operating expenses and revenues of financial agencies	Does the banking prudential supervisor publish decisions on warnings, fees and other measures (other than bank closure/revoking of license) with respect to individual banks?
SFA												
Belgium	1			1	1	1	0	1		1		1
Sweden	1			1				1		1		1
Finland	0	1(P&L)		1		1		1 (cb)			1	1
Japan	1(cb)											
UK	1			1		1	1	1		1		1
CB												
Argentina	1 (cb)			1		1		1 (cb)		0	0	1
Austria	1 (cb)		1	1	1	1	0	1 (cb)		1(cb)		0
Brazil	1 (cb)		1	1	1	1	1	1 (cb)		0		1
Czech Rep.	1 (cb)			1	1	1	1	1 (cb)		0	0	0
Germany	1 (cb)			1		1	1	1 (cb)		1(cb)		0
Hong Kong		1(cb)		1	1	1	1		1(cb)		0](no statutory powers)
Ireland	1 (cb)	1(P&L)		1	1				1(cb)		1	1
Israel	1 (cb)		1	1	1		1		1(cb)	0	0	0
Netherlands	1 (cb)			1		1	1	1 (cb)		1(cb)		1
New Zealand	1 (cb)		0	1	1	1	1	1 (cb)		0	0	0
Poland	1 (cb)	0						1 (cb)		0		
Portugal	1 (cb)		1	1	1	1		1 (cb)		1(cb)		1
Slovenia		1 (cb)	1	1		1		1 (cb)		0		0
Spain	1 (cb)		1	1		1		1 (cb)		0	0	0
USA	1 (cb)		1	1	1			0	1(cb)		1(cb)	1

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